



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

18

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/524,667 | 02/11/2005 | Manuel Richey | H0004201US-1462 | 1472 |
| 7590 | 02/13/2007 | | EXAMINER | |
| Deborah Chess Honeywell International Inc 101 Columbia Road Morristown, NJ 07962 | | | LEVI, DAMEON E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2841 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE | | |
| 3 MONTHS | 02/13/2007 | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | |
|------------------------------|----------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/524,667 | RICHEY ET AL. |
| | Examiner Dameon E. Levi | Art Unit 2841 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11-14-2006(Amendment).
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 and 12-19 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-10, 12-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 February 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pienimaa et al US Patent 6110563.

Regarding claim 1, Pienimaa et al discloses applying a non-conductive coating(element 42, Figs 3,4) over said electrical component(element 31,33,35, Figs 3,4); and applying a conductive coating(element 43, Figs 3,4) over said non-conductive coating and in contact with said grounding point (element 46, Figs 3,4) so as to ground said conductive coating and thereby reduce electromagnetic emissions from said electronic circuit(see column 6, lines 34-45).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-10, and 12, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al US Patent 5981043.

Regarding claim 5, Murakami et al discloses an electric device comprising:

at least one electrical component(elements 7, Figs 1-3);

at least one grounding pad(elements 5, Figs 1-3);

a non-conductive coating(elements 8, Figs 1-3) disposed over the at least one electrical component; and

a conductive coating (elements 9, Figs 1-3) disposed on the non-conductive coating and on the at least one grounding pad, the conductive coating contiguous with at least a portion of the at least one grounding pad.

Regarding claim 6, Murakami et al discloses the non-conductive coating having an opening (elements 25, Figs 1-3) disposed above the portion of the at least one grounding pad, the conductive coating physically touching the portion of the at least one grounding pad through the opening.

Regarding claim 7, Murakami et al discloses the electronic circuit having a central region and a peripheral region, a boundary between the central region and the peripheral region defined by an outermost edge of the non-conductive coating, the at least one grounding pad disposed at least partially within the peripheral region(elements 7, 5, 8, Figs 1-3).

Regarding claim 8, Murakami et al discloses the non conductive coating(elements 8, Figs 1-3) conforming to an upper surface of the at least one electrical component, the conductive coating(elements 9, Figs 1-3) conforming to an upper surface of the non-conductive coating and an upper surface of the at least one grounding pad(elements 5, Figs 1-3).

Regarding claim 9, Murakami et al discloses wherein the non-conductive coating comprises a material selected from the group consisting of insulating tape, rubber, silicone, room-temperature vulcanizing silicone rubber, insulating varnish, and combinations thereof(column 5, lines 60-65).

Regarding claim 10, Murakami et al discloses wherein the conductive coating comprises a material selected from the group consisting of conductive paint, silver paint, and combinations thereof(Tables 1, 2).

Regarding claim 12, Murakami et al discloses the at least one grounding pad(elements 5, Figs 1-3)disposed entirely within the peripheral region.

Regarding claim 16, Murakami et al discloses a device comprising:
a circuit board (elements 1, Figs 1-3)having a peripheral region and a central region;
electrical components(elements 7, Figs 1-3) disposed within the central region of the circuit board;
at least one grounding pad (elements 5, Figs 1-3)disposed within the peripheral region of the circuit board;
a non-conductive coating (elements 8, Figs 1-3)disposed on at least one of the electrical components; and
a conductive coating(elements 9, Figs 1-3) disposed on the non-conductive coating and disposed on the at least one grounding pad, the conductive coating contiguous with at least a first portion of an upper surface of the at least one grounding pad.
Regarding claim 17, Murakami et al discloses wherein the peripheral region surrounds the central region(see Figs 1-3).

Regarding claim 18, Murakami et al discloses wherein the non-conductive coating(elements 8, Figs 1-3) is contiguous with a second portion of the upper surface of the at least one grounding pad(elements 5, Figs 1-3), the first portion and the second portion constituting an entirety of the upper surface of the at least one grounding pad.

Regarding claim 19, Murakami et al discloses wherein the non-conductive coating(elements 8,24, Figs 1-3) is disposed on a first portion of the central region, the first portion less than an entirety of the central region.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pienimaa et al US Patent 6110563 in view of Murakami et al US Patent 5981043.

Regarding claim 2, Pienimaa et al discloses the instant claimed invention except further comprising, prior to applying the conductive coating, opening a hole in the non-conductive coating above the at least one grounding point to enable contact between the conductive coating and the at least one grounding point.

Murakami et al discloses, opening a hole (element 25, Fig 3) in the non-conductive coating above the at least one grounding point (element 23, Fig 3) to enable contact between the conductive coating and the at least one grounding point.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have opened the hole in the manner as taught by Murakami et al in the assembly as taught by so as to enable grounding performance on both sides of the circuit board via the through hole.

Regarding claim 3, Pienimaa et al discloses the instant claimed invention except wherein applying the non-conductive coating comprises applying the non-conductive coating on a central portion of the electronic circuit where the at least one electrical component is disposed but not on an edge portion of the electronic circuit where the at least one grounding point is disposed;

and wherein applying the conductive coating comprises applying the conductive coating on the central portion of the electronic circuit to contact the non-conductive coating (element 24, Fig 3) and applying the conductive coating on the edge portion of the electronic circuit to contact the at least one grounding point.

Murakami et al discloses applying the non-conductive coating comprises applying the non-conductive coating on a central portion of the electronic circuit where the at least one electrical component is disposed but not on an edge portion of the electronic circuit where the at least one grounding point(element 23, Fig 3) is disposed;

and wherein applying the conductive coating comprises applying the conductive

Art Unit: 2841

coating (element 27, Fig 3) on the central portion of the electronic circuit to contact the non-conductive coating(element 24, Fig 3) and applying the conductive coating on the edge portion of the electronic circuit to contact the at least one grounding point(element 23, Fig 3).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have arranged the non conductive and conductive coatings in relation to the grounding point in the manner as taught by Murakami et al in the method of assembly as taught by Pienimaa et al so as to ensure EMI attenuation over the entire surface area of the circuit board.

Regarding claim 4, Pienimaa et al discloses wherein applying the non conductive coating comprises conforming the non-conductive coating(element 42, Fig 3,4) to a top surface of the at least one electrical component(element 31,33,35, Fig 3,4), and wherein applying the conductive coating (element 43, Fig 3,4) comprises conforming the conductive coating to a top surface of the non-conductive coating(element 42, Fig 3,4) and to a top surface of the grounding point(element 46, Fig 3,4).

Regarding claim 13, Pienimaa et al discloses wherein applying the non-conductive coating over the electrical component comprises applying the non-conductive coating(element 42, Fig 3,4) to a top surface of the electrical component(element 31,33,35, Fig 3,4), wherein applying the conductive coating (element 43, Fig 3,4) over the non-conductive coating and in contact with the grounding point comprises applying the conductive coating(element 43, Fig 3,4) to a top surface of the non-conductive coating and to a top surface of the grounding point, and wherein applying the

conductive coating occurs after applying the non-conductive coating(element 42, Fig 3,4).

Regarding claim 14, Pienimaa et al discloses wherein applying the non-conductive coating comprises applying the non-conductive coating(element 42, Fig 3,4) such that the non-conductive coating exposes at least a portion of an upper surface of the at least one grounding point(element 46, Fig 3,4).

Regarding claim 15, Pienimaa et al discloses wherein applying the conductive coating comprises applying the conductive coating(element 43, Fig 3,4) such that the conductive coating is contiguous with at least a portion of the at least one grounding point(element 46, Fig 3,4).

Response to Arguments

Applicant's arguments filed 11/14/206 with respect to claim 1 have been fully considered but they are not persuasive. In response to Applicant's argument that the prior art does not teach applying a conductive coating in contact with the grounding point. In response, the Office indicates that in Figs 3, 4, the conductive coating 43, is shown as being in contact with the grounding point 46, this is also indicated at column 6, lines 34-45.

Applicant's arguments with respect to claims 1-10, 12-19 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dameon E. Levi whose telephone number is (571) 272-2105. The examiner can normally be reached on Mon.-Thurs. (9:00 - 5:00) IFP, Fridays Telework.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2841

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEL


Dameon D. Levi
AU 2841

Dameon E Levi
Examiner
Art Unit 2841